

is consistent with the preceding compound structures in Scheme 6, and is also consistent with Formula I, as shown on page 4, line 9 of the Specification, and in Claim 1, p. 121, line 4.

The above amendments to the Specification correct obvious errors. Accordingly, no new matter is added by these amendments. The Applicants respectfully request that the above-described amendments be entered into the application.

## AMENDMENTS TO THE CLAIMS

This Response and Amendment amends Claims 1-9 and adds new Claims 10-27. These amendments and new claims do not add new matter as detailed below. Entry of the amendments and new claims is respectfully requested.

### Claim 1.

Claim 1 has been amended such that the phrase "A compound of the structure" has been removed and replaced with "A compound of formula I," and the formula below has been labeled "I" for clarity. This preamble of Claim 1 now clearly refers to the labeled formula I below.

The phrase "or a pharmaceutically-acceptable salt or prodrug thereof," has been moved from the end of the definition for the compounds of formula I to the beginning of the definition for clarity. The phrase "or optical isomer" has been removed from Claim 1 for clarity. Formula I, as written, and the subsequent definitions, represents all of the optical isomers. Thus, the phrase "or optical isomer" has been removed as it is clearly redundant.

The definition for R<sup>1</sup>-R<sup>5</sup> has been amended to clarify the definition for the group of formula II, and formula II has been labeled accordingly. The proviso that "one or more than one of R<sup>1</sup> or R<sup>3</sup> is a group of formula II . . ." is now appropriately below formula II, as defined above.

The definition for R<sup>10</sup> and R<sup>11</sup> in Claim 1 has been amended for clarity. In particular, the term "or" has been added to the end of the definition for R<sup>10</sup> and R<sup>11</sup>. In

addition, the expressions “wherein R<sup>10</sup> and R<sup>11</sup> may be joined . . .” and “said ring being optionally substituted” have been amended and the terms “unsubstituted” and “substituted” have been added to clarify that the heterocycle is unsubstituted or substituted. The definition of R<sup>10</sup> and R<sup>11</sup> now states “R<sup>10</sup> and R<sup>11</sup> are taken together with N to form a three to seven membered unsubstituted heterocyclyl ring, or a three to seven membered substituted heterocyclyl ring, substituted with one or more than one substituent R<sup>13</sup>, . . . .”

The definition of A in Claim 1 has been amended to clarify that the aryl and heterocyclyl groups can be either unsubstituted or substituted. The phrase “hydrogen” has accordingly been deleted from the list of substituents for R<sup>12</sup>.

#### **Claim 2.**

Claim 2 has been amended to recite a clear dependent claim format by changing the phrase “The compound of claim 1 wherein R<sup>3</sup> is” to “A compound according to claim 1 wherein R<sup>3</sup> is the group of formula II.” The phrase is amended to clarify that the claim includes “pharmaceutically acceptable salts or prodrugs” according to the preceding independent claim. The formula in Claim 2 has appropriately been labeled “II.” In addition, the definitions for D, B, Y, Z, R<sup>10</sup> and R<sup>11</sup> in Claim 2 have been amended to clarify that these substituents are defined as in claim 1. The additional Claim 2 definitions have been deleted and are defined as in Claim 1.

#### **Claim 3.**

Claim 2 has been amended to recite a clear dependent claim format by changing the phrase “The compound of claim 1 of the structure” to “A compound according to claim 1 of formula III.” The phrase is amended to clarify that the claim includes “pharmaceutically acceptable salts or prodrugs” according to the preceding independent claim. The formula in Claim 3 has appropriately been labeled “III.” In addition, the definitions for R<sup>1</sup>, R<sup>2</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, D, B, Y, Z, and n in Claim 3 have been deleted and are defined as in Claim 1.

#### **Claim 4.**

Claim 4 has been amended to recite a clear dependent claim format by changing the phrase "The compound of claim 3 . . ." to "A compound according to claim 3 . . ." The phrase is amended to clarify that the claim includes "pharmaceutically acceptable salts or prodrugs" according to the preceding claims, upon which Claim 4 depends. The definition for R<sup>10</sup> and R<sup>11</sup> in Claim 4 has been amended for clarity as described in the amendment to Claim 1 above. The phrase "wherein R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are unsubstituted or substituted with at least one electron donating or electron withdrawing group" has been added to clarify that these groups, (*i.e.*, the substituents redefined in Claim 4), can be unsubstituted or substituted. Support for this amendment is found in Claim 1 as originally filed.

#### Claim 5.

Claim 5 has been amended to recite a clear dependent claim format by changing the phrase "The compound of claim 1 of the structure" to "A compound according to claim 1 of formula IV." The phrase is amended to clarify that the claim includes "pharmaceutically acceptable salts or prodrugs" according to the preceding claims, upon which Claim 5 depends. The formula in Claim 5 has appropriately been labeled "IV." The definitions for R<sup>10</sup> and R<sup>11</sup> in Claim 5 have been amended and are defined as in Claim 1. The phrase "wherein R<sup>12</sup> is unsubstituted or substituted with at least one electron donating group or electron withdrawing group" has been added to the R<sup>12</sup> definition, which is redefined in Claim 5. Accordingly, the phrase "wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>10</sup>, R<sup>12</sup>, and R<sup>13</sup>, are unsubstituted or substituted . . ." has been deleted from Claim 5. Support for this amendment is in Claim 5, as originally filed. The phrase "hydrogen" has been deleted from the definition of R<sup>12</sup>, as is consistent with the amendments to Claim 1.

#### Claim 6.

Claim 6 has been amended to recite a clear dependent claim format by changing the phrase "The compound of claim 5 . . ." to "A compound according to claim 5 . . ." The phrase is amended to clarify that the claim includes "pharmaceutically acceptable salts or

prodrugs" according to the preceding claims, upon which Claim 6 depends. The definition for R<sup>10</sup> and R<sup>11</sup> in Claim 6 has been amended for clarity as described in the amendment to Claim 1. The definition for R<sup>12</sup> has been deleted from Claim 6 and is now inherently defined as in Claim 5, upon which Claim 6 depends.

**Claim 7.**

Claim 7 has been amended to recite a clear dependent claim format by changing the phrase "The compound of claim 1 . . ." to "A compound according to claim 1 . . ." to clarify that the claim includes "pharmaceutically acceptable salts or prodrugs" according to preceding Claim 1, upon which Claim 7 depends.

**Claim 8.**

Claim 8 has been amended to recite clear dependent claim format as described in the amendment to Claim 7 above. Claim 8 has also been amended such that the phrase "in a pharmaceutically acceptable carrier" is now correctly recited as "and a pharmaceutically acceptable carrier."

**Claim 9.**

Claim 9 has been amended to recite a clear dependent claim format by deleting the phrase "of" and adding the phrase "according to" to clarify that the claim includes "pharmaceutically acceptable salts or prodrugs" according to preceding claim 1, upon which Claim 9 depends.

**Claim 10.**

Support for Claim 10 is found in the specification on page 11, lines 3-7: "The term "aryl" . . . refers to a mono. . . cyclic carbocyclic ring system having one or two aromatic rings. . . optionally substituted . . ." Further support for Claim 10 is found in the specification on page 6, lines 6-12, which states "A is an aryl or heterocyclyl group, having at least one substituent R<sup>12</sup>, . . ." and on page 14, lines 3-6, which states that

[h]eterocyclics also include compounds of the formula (shown in the specification), where X\* and Z\* are independently selected from. . . -CH<sub>2</sub>-. . . -NH- and -O-, with the proviso that at least one of X\* and Z\* is not -CH<sub>2</sub>, and Y\* is selected from. . . and - (C(R'')<sub>2</sub>)<sub>v</sub>, where R'' is hydrogen or alkyl of 1 to 4 carbons, and v is 1-3.

**Claim 11.**

Support for Claim 11 is found in the specification on page 11, lines 3-7.

**Claim 12.**

Support for Claim 12 is found in the specification on page 6, line 19. Further support for Claim 13 is found in Examples 1-75 on pages 31-96 of the specification

**Claim 13.**

Support for Claim 13 is found in the specification on page 4, lines 16-17 through page 5, lines 1-2 and in Claim 1, as originally filed on page 121, lines 11-14 of the specification. Further support for Claim 13 is found on pages 28-31 of the specification (e.g., Schemes 1-6) and Examples 1-96 on pages 31-113 of the specification.

**Claim 14.**

Support for Claim 14 is shown in Schemes 1-6 on pages 28-31 of the specification and Examples 1-96 on pages 31-113 of the specification.

**Claim 15.**

Support for Claim 15 is found in the specification on page 4, lines 16-17 through page 5, lines 1-2 and in Claim 1, as originally filed on page 121, lines 11-14 of the specification. Further support for Claim 15 is shown in Schemes 1-3, on pages 28-29 of the specification and in Examples 1-13, on pages 31-44 of the specification.

**Claim 16.**

Support for Claim 16 is found in the specification on page 4, lines 16-17 through page 5, lines 1-2 and in Claim 1, as originally filed on page 121, lines 11-14. Further support for Claim 16 is shown in Examples 13-96 on pages 44-113 of the specification.

**Claim 17.**

Support for Claim 17 is found in the specification on page 4, lines 16-17 through page 5, lines 1-2; page 6, lines 15-17; and in Claim 1, as originally filed on page 121, lines 11-14 of the specification. Further support for Claim 17 is found on pages 28-31 of the specification (e.g., Schemes 1-6) and Examples 1-96 on pages 31-113 of the specification.

**Claim 18.**

Support for Claim 18 is found in the specification on page 4, lines 11-12 and in Claim 1, as originally filed on page 121, lines 6-7 of the specification. Further support for Claim 18 is found in Examples 1-96 on pages 31-113 of the specification.

**Claim 19.**

Support for Claim 19 is found in the specification on page 4, lines 11-12 and page 4, lines 16-17 through page 5, lines 1-2, and in Claim 1, as originally filed on page 121, lines 6-7 and 11-14 of the specification. Further support for Claim 19 is found on pages 28-31 of the specification (e.g., Schemes 1-6) and Examples 1-96 on pages 31-113 of the specification.

**Claim 20.**

Support for Claim 20 is found in the specification on page 4, lines 11-12 and in Claim 1, as originally filed on page 121, lines 6-7 of the specification. Further support for Claim 20 is found on page 13, lines 2-3 of the specification; pages 28-31 of the specification (e.g., Schemes 1-6); and Examples 1-96 on pages 31-113 of the specification.

**Claim 21.**

Support for Claim 21 is found in the specification on page 5, lines 3-4 and in Claim 1, as originally filed on page 121, lines 15-16 of the specification. Further support for Claim 2 is found in Examples 1-96 on pages 31-113 of the specification.

**Claim 22.**

Support for Claim 22 is found in the specification on page 4, lines 11-12 and in Claim 1, as originally filed on page 121, lines 6-7 of the specification. Further support for Claim 21 is found in Examples 1-96 on pages 31-113 of the specification.

**Claim 23.**

Support for Claim 23 is found in the specification on page 4, lines 11-12; and page 13, lines 1-3; and in Claim 1, as originally filed on page 121, lines 6-7 of the specification. Further support for Claim 23 is found in Examples 1-10 on pages 31-41 of the specification.

**Claim 24.**

Support for Claim 23 is found in the specification on page 4, lines 11-12; and page 13, lines 1-3; and in Claim 1, as originally filed on page 121, lines 6-7 of the specification. Further support for Claim 24 is found in Examples 11-12 on pages 42-44 of the specification.

**Claim 25.**

Support for Claim 25 is found in the specification on pages 114, line 2 through page 116, line 8, in particular on page 115, lines 3-4.

**Claim 26.**

Support for Claim 26 is found in the specification on page 4, lines 1-3.

**Claim 27.**

Support for Claim 27 is found in the specification on page 4, lines 3-6.